

FAO Plant Protection Bulletin

A Publication of the
World Reporting Service on Plant Diseases and Pests

TABLE OF CONTENTS AND INDEX TO VOLUME FIFTEEN

1967



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME

TABLE OF CONTENTS

No. 1 - FEBRUARY

Recent advances in the control of soil fungi, <i>George A. Zentmyer</i>	1
Frond-drop: an unrecorded disease of coconut of unknown etiology in the Bicol region of the Philippines, <i>A.E. Bigornia, W.C. Price and E.P. Rillo</i>	6
Field observations on root rot of teak in Tanzania, <i>D. Hocking and A.A. Jaffer</i>	10
The occurrence of a <i>Phytophthora</i> root and leaf disease of black pepper in Jamaica, <i>R.I. Leather</i>	15
Principal diseases affecting <i>Pinus radiata</i> in Chile, <i>Santiago Herrera Autter</i>	17
Outbreaks and new records	19
India, United States	19
Plant quarantine announcements	21
Turkey, United States	21
News and notes	24

No. 2 - APRIL

Epidemic decline of breadfruit in the Pacific Islands, <i>D. Zaiger and G.A. Zentmyer</i>	25
Observations on the ecology of <i>Thaia oryzivora</i> , a leafhopper found on rice in Thailand, <i>J. Leeuwangh and Prakob Leuamsang</i>	30
The biology and control of the rice field mole rat of Ceylon, <i>Gynomys gracilis, Henry E. Fernando, Noboru Kawamoto and Nalini Perera</i>	32
Nematodes associated with declining coconut palms, <i>Karl Maramorosch and A. Morgan Golden</i>	38
Outbreaks and new records	40
Ecuador, India	40
Plant quarantine announcements	42
France, United States	42
News and notes	43

No. 3 - JUNE

Plant parasitic nematodes associated with sugarcane production in Rhodesia, <i>George C. Martin</i>	45
Outbreaks and new records	59
India, Mauritius and Réunion	59
Plant quarantine announcements	61
Greece, Iraq, United States	61
News and notes	64

No. 4 - AUGUST

<i>Agropyron repens</i> and other perennial grasses as hosts of bromegrass mosaic virus from the U.S.S.R. and the United States, <i>J.T. Slykhuis</i>	65
---	----

The epiphytic of yellow orange leaf disease of rice in 1966 in Thailand, <i>H.A. Lamey, Preecha Surin, Somkid Disthaporn and Luansark Wathanakul</i>	67
Biology and control of leopard moth on pear trees in the United Arab Republic, <i>M.E. Eldefrawi, I. Hanbal and S.M. Hammad</i>	70
Outbreaks and new records	77
India, United States	
Plant quarantine announcements	79
Australia, Greece	
News and notes	80

No. 5 - OCTOBER

Cocoa dieback - A review of present knowledge, <i>P.D. Turner</i>	81
Outbreaks and new records	
India	102
News and notes	103

No. 6 - DECEMBER

Mechanical transmission of coconut lethal yellowing, <i>W.C. Price, A.P. Martinez and D.A. Roberts</i>	105
Progress on citrus virus diseases through international cooperation and some problems and research needs in the Pacific region, <i>James M. Wallace</i>	109
Observations on crop pests in the Sudan in 1966/67, <i>T.V. Venkatraman and E. El Khidir</i>	115
Outbreaks and new records	117
El Salvador, United States, Venezuela	
Plant quarantine announcements	118
Canada	
News and notes	119

INDEX

Achras zapota, see sapodilla
Aconia sp., eggplant, Sudan, 115
Agropyron cristatum, virus symptoms, United States, 65
A. repens, host of virus, United States, 65
A. trachycaulum, virus symptoms, United States, 65
Agrostis canina, virus symptoms, United States, 65
A. scabra, virus symptoms, United States, 65
A. stolonifera, virus symptoms, United States, 65
A. tenuis, virus symptoms, United States, 65
Aleurocanthus woglumi, orange, Venezuela, 117
Aleurodiscus variolosa, cocoa, 92
Alternaria tenuissima, guar, India, 102
Aphanomyces, 5
Aphelenchoides sp., sugarcane, Rhodesia, 46
Aphelenchus sp., sugarcane, Rhodesia, 46
Aphelinus flaviventris, United States, 77
Armillaria mellea, pine, Chile, 17
Arthrobotryum sp., cocoa, 92
Aspergillus fumigatus, cocoa, 92
A. nidulans, cocoa, 92
A. niger, cocoa, 92
A. ustus, cocoa, 92
Artocarpus communis, see breadfruit
Aujla, S.S., 19 (see errata)
Auricularia sp., cocoa, 92
Avocado, disease, United States, 1

Barley, disease, India, 19; virus symptoms, United States, 65
Bean (Phaseolus vulgaris), disease, 4
Bedi, P.S., 19 (see errata), 77
Beltrania africana, cocoa, 92
Bemisia tabaci, cotton, Sudan, 116
Bigornia, A.E., 6
Black pepper, see *Piper nigrum*
Botryodiplodia theobromae, cocoa, Malaysia, 88; sapodilla, India, 59
Bracharia mutica, injury by *Thaia oryzivora*, Thailand, 31
Breadfruit, disease, Pacific Islands, 25
Bromus inermis, virus symptoms, United States, 65

Cabbage, disease, India, 40
Calamagrostis purpurascens, virus symptoms, United States, 65
Calcarisporium sp., cocoa, 92
Caloneuria ceremea, 91, see also *C. rigidiuscula*
C. flava, 91, see also *C. rigidiuscula*
C. rigidiuscula, cocoa, Malaysia, 83
Calospora theobromae, cocoa, 91
Calostilbe striispora, cocoa, 91
Calotropis procera, biological control, Sudan, 116
Caribbean Plant Protection Commission (first session), 43
Caribbean Symposium on Nematodes of Tropical Crops, 80
Cauliflower, disease, India, 41
Cephaelurus minimus, cocoa, Ceylon, 92
C. mycoidea, see *C. virescens*
C. parasiticus, see *C. virescens*
C. virescens, cocoa, Trinidad, 92
Cephalosporium sp., cocoa, 92

Ceratitis capitata, citrus, Sudan, 115
C. quinaria, citrus, guava, *Zizyphus spina-christi*, Sudan, 115
Chaetomium sp., cocoa, 91
Chand, J.N., 102
Chattopadhyay, S.B., 40
Chilo partellus, sorghum, Sudan, 115
Citrus, potential pest, El Salvador, 117; virus diseases, Mauritius and Réunion, 59; Pacific Region, 109
Citrus aurantiifolia, virus disease, Mauritius, 60
C. grandis, virus disease, Mauritius, 60
C. hystrix, virus disease, Mauritius, 60
C. jambhiri, virus disease, Mauritius, 60
C. latifolia, virus disease, Mauritius, 60
C. limonia, virus disease, Mauritius, 60
C. paradisi, virus disease, Mauritius, 60
C. reticulata, virus disease, Mauritius, 60
C. reticulata x *C. paradisi*, virus disease, Mauritius, 60
C. sinensis, virus disease, Mauritius, 60; pest, Venezuela, 117
C. sunki, virus disease, China (Taiwan), 112
Cladosporium sp., cocoa, 92
Claviceps purpurea, barley, India, 19
Cochliobolus spicifer, cotton, India, 77
Cocoa, diseases and pests, Malaysia, 81
Coconut, disease, Philippines, 6; United States, 105; nematodes, 38
Colias electo, *Medicago sativa*, Sudan, 115
Colletotrichum gloeosporioides, cocoa, 92
C. luxificum, cocoa, 92
C. theobromicola, cocoa, 92
Combava, see *Citrus hystrix*
Commonwealth Institute of Entomology, 40
Coniothyrium, cocoa, 92
Corticium salmonicolor, cocoa, 92
C. solani, black pepper, Jamaica, 15
Coryna argentata, okra, Sudan, 116
Cotton, disease, 4; India, 77; pests, Sudan, 116
Criconemoides n. sp., coconut, Trinidad, 39; sugarcane, Rhodesia, 46
Cucumber, virus symptoms, United States, 65
Cyamopsis tetragonoloba, see guar
Cyaneolytta rugipennis, vegetables, Sudan, 115
Cylindrocarpon sp., cocoa, 92

Dacus ciliatus, cucurbits, Sudan, 115
D. longistylus, *Calotropis procera*, Sudan, 116
Danthonia spicata, virus symptoms, United States, 65
Dialeurodes citri, *Gardenia* sp., citrus, El Salvador, 117
Diaphorina citri, citrus disease vector, Mauritius, 60
Diaporthe perniciosa, cocoa, 91
Digitaria corymbosa, host of leafhopper, Thailand, 31
Diparopsis watersi, cotton, Sudan, 116
Diplodia sp., cocoa, 92
Distantella theobroma, cocoa, 93
Distiphorn, S., 67
Ditylenchus sp., sugarcane, Rhodesia, 46
Dolichodorus profundus, coconut, Togo, 38
Dorylaimus sp., coconut, India, 38; sugarcane, Rhodesia, 49
Dothistroma pini, pine, Chile, 17

Earias bipлага, cocoa, 93
E. insulana, cotton, Sudan, 116
 Eggplant, pests, Sudan, 115
 El Khidir, E., 115
 Eldefrawi, M.E., 70
Emoiaea lybica, cotton, Sudan, 116
Encholaimus taurus, coconut, Trinidad, 39
Epilachna canina, potato, tomato, Sudan, 116
 European Cereal Rust Conference (Second), 102
Eutypella theobromicola, cocoa, 91
Exosporium ampullaceum, cocoa, 92

FAO Conference on *Quelea* Bird and Water Hyacinth Control in Africa, 104
 FAO Working Party on Official Control of Pesticides, 120
 FAO Working Party on Pest Resistance to Pesticides, 119
 FAO Working Party on Pesticide Residues, 119
 Fernando, H.E., 32
Festuca saximontana, virus symptoms, United States, 65
Fomes lignosus, cocoa, 91
Fractiaea broomeiana, cocoa, 91
Fusarium sp., pine, Chile, 17
F. album, cocoa, 92
F. bulbigenum, onion, cruciferous crops, India, 40
F. decemcellulare, see *Calonectria rigidiuscula*
F. equiseti, cocoa, 92
F. oxysporum f. *conglutinans*, cabbage, India, 40
F. samaoense, cocoa, 92
F. solani, black pepper, Jamaica, 15; breadfruit, Pacific Islands, 27; cocoa, 92
F. solani f. *phaseoli*, beans, 4

Gardenia sp., citrus, El Salvador, 117
Geisha distinctissima, citrus virus vector, Japan, 111
Glocladum roseum, cocoa, 92
Gloeosporium spp., cocoa, 92
 Golden, A.M., 38
Graphium rhodophaeum, cocoa, 92
 Grasses (lawns, pastures), pest, Hawaii, 78
 Guar, disease, India, 102
 Guava, pest, Sudan, 115
Gumomyces kok gracilis, rice, Ceylon, 32
G. kok insularis, rice, Ceylon, 32

Hammad, S.M., 70
 Hanbal, I., 70
Haplosporella sp., pine, Chile, 18
Helicobasidium compactum, teak, Tanzania, 10
Helicotylenchus sp., sugarcane, Rhodesia, 46
H. dihystrera, coconut, Jamaica, Trinidad, 38
Helicoverpa armigera, see *Heliothis armigera*
Heliothis armigera, tomato, Sudan, 115
Heliothrips rubioincinctus, cocoa, 93
Helopeltis bergrothi, cocoa, 93
H. claviger, cocoa, 93
Hemicryconemoides sp., sugarcane, Rhodesia, 46
Hemicyliophora sp., sugarcane, Rhodesia, 46; Togo, 38
 Herrera Autter, S., 17
Heterobostrychus aequalis, timber, United States, 20
 Hocking, D., 10
Hoplolaimus sp., sugarcane, Rhodesia, 46
H. seinhorstii, coconut, Ceylon, 38

Hordeum jubatum, virus symptoms, United States, 65
Hyalopterus sp., 77
Hymenula socia, cocoa, 92

International Botanical Congress (Eleventh), 43
 International Congress of Entomology (Thirteenth), 80
 International Congress of Plant Protection (Sixth), 24
 International Symposium on Plant Pathology, 24

Jaffer, A.A., 10

Kawamoto, N., 32
 Knolkhel (kohl-rabi), disease, India, 41

Lamey, H.A., 67
Laphygrma exigua, *Medicago sativa*, Sudan, 115; parasites, Sudan, 115
 Leather, R.I., 15
 Leeuwangh, J., 30
Leggada booduga fluvidiventris, rice, Ceylon, 32
 Leuamsang, P., 30
Lolium multiflorum, virus symptoms, United States, 65
L. perenne, virus symptoms, United States, 65
Longidorus sp., sugarcane, Rhodesia, 46
L. laevicapitatus, coconut, Trinidad, 38
Longuingis sacchari, sorghum, Sudan, 115
Lopharia mirabilis, cocoa, 92

Maize, virus symptoms, United States, 65
 Maramorosch, K., 38
Marasmius perniciosus, cocoa, 91
M. scadens, cocoa, 91
 Martin, G.C., 45
 Martinez, A.P., 105
Medicago sativa, pests, Sudan, 115
Megastigmus pistaciae, *Pistacia vera*, United States, 117
Melanospora zamiae, 91
Meloidogyne spp., black pepper, Jamaica, 16
M. arenaria, sugarcane, Rhodesia, 45
M. incognita acrita, coconut, Ceylon, 38
M. javanica, sugarcane, Rhodesia, 45
Monalonion dissimilatum, cocoa, 93
Monilia cinerea, cocoa, 92
Mononchus sp., coconut, India, 38
Mucor spp., 91
 Mustafee, T.P., 40
Mylabris abiadensis, okra, Sudan, 116

Naia tripudians, predator of rice-field mole rat, Ceylon, 34
Nectria bactriadioides, cocoa, 91
N. cacaoicola, cocoa, 91
N. haematococca, cocoa, 91
N. jungnieri, cocoa, 91
Neotermes aburiensis, cocoa, 93
Nephrotettix impicticeps, virus vector, rice, Thailand, 67
Nigrospora sphaerica, cocoa, 92
Nummularia anthracodes var. *gliricidiae*, cocoa, 92

Oats, virus symptoms, United States, 65
 Okra, pests, Sudan, 116
 Onion, disease, India, 40

Ophiobolus graminis, wheat, 4
Opicus sp., parasite of *Ceratitis quinaria*, Sudan, 115

Pachyzancla, see *Psara licarsisalis*
Panicum repens, host of leafhopper, Thailand, 31
Pantorrhites plutus, cocoa, 93
Paratelphusa ceylonensis, rice, Ceylon, 34
 Pear, pest, United Arab Republic, 70
Pectinophora gossypiella, cotton, Sudan, 116
Pellicularia koleroga, cocoa, 91
Peltamigratus luci, coconut, Trinidad, 38
Penicillium spp., cocoa, 92
 Perera, N., 32
Perkinsiella saccharicida, sugarcane, Ecuador, 40
Pestalotia spp., cocoa, 92
P. sapotae, sapodilla, India, 59
P. veronicae, pine, Chile, 17
Pestalotiopsis owenii, cocoa, 92
P. papposa, cocoa, 92
P. theae var. *minor*, cocoa, 92
P. versicolor, cocoa, 92
Phaeobotryosphaeria plicatula, cocoa, 91
Phaeoisaria cornui, cocoa, 92
Phaseolus vulgaris, see bean
Phleum alpinum, virus symptoms, United States, 65
P. pratensis, virus symptoms, United States, 65
Phoma spp., cocoa, 92
Phomopsis sp., breadfruit, Pacific Islands, 27; cocoa, 92
Phyllosticta sp., breadfruit, Pacific Islands, 27
Phymatotrichum, cotton, 4
Physalospora rhodina, see *Botryodiplodia theobromae*
Phytophthora cinnamomi, avocado, United States, 2
P. hibernalis, black pepper, Jamaica, 15
P. palmivora, cocoa, 91
Pinus radiata, diseases, Chile, 17
Piper aduncum, disease-resistant, Puerto Rico, 16
P. nigrum, disease, Jamaica, 15; nematode, Jamaica, 16
Pistacia vera, pest, United States, 117
Platygomiriodes apiformis, cocoa, 93
Pleurotus testudo, cocoa, 92
Poa bulbosa, virus symptoms, United States, 65
P. interior, virus symptoms, United States, 65
P. nemoralis, virus symptoms, United States, 65
P. palustris, virus symptoms, United States, 65
P. pratensis, virus symptoms, United States, 65
P. subcaerulea, virus symptoms, United States, 65
 Potato, disease, 4; pest, Sudan, 116
Pratylenchus zae, sugarcane, Rhodesia, 46
 Price, W.C., 6, 105
Psara licarsisalis, grasses, Hawaii, 78
Pseudocampotoum fasciculatum, cocoa, 92
Psidium guajava, see guava
Pythium sp., 5; breadfruit, Pacific Islands, 27
P. splendens, black pepper, Jamaica, 15

Quarantine legislation, Australia, 79; France, 42; Greece, 61, 79; Iraq, 61; Turkey, 21; United States, 23, 42, 62
Quelea quelea aethiopica, 103
Q. quelea centralis, 103
Q. quelea lathami, 103
Q. quelea quelea, 103

Radish, disease, India, 41
Rhadinaphelenchus cocophilus, coconut, Trinidad, 38

Rhizoctonia, snap beans, 4
Rhynchosia, disease, Tanzania, 13
 Rice, pest, Thailand, 30; Ceylon, 32; virus disease, Thailand, 67
 Rillo, E.P., 6
 Roberts, D.A., 105
Rosellinia, cocoa, 91
Rotylenchulus sp., sugarcane, Rhodesia, 46
Rotylenchus sp., sugarcane, Rhodesia, 46
 Rye, virus symptoms, United States, 65

Sahlbergella singularis, cocoa, 93
Sapodilla, diseases, India, 59
Sceliodes laisalis, eggplant, Sudan, 115
Schizophyllum commune, cocoa, 92
Scutellonema sp., sugarcane, Rhodesia, 46
Sebacina calcea, cocoa, 92
Sesamia cretica, sorghum, Sudan, 115
 Slykhuis, J.T., 65
 Snap beans, disease, 4
 Sorghum, pests, Sudan, 115
Spicaria colorans, see *Calonectria rigidiuscula*
Sporidesmium tropicale, cocoa, 92
 Srivastava, M.P., 59
Stachybotrys theobromae, cocoa, 92
Stilbella proliferans, cocoa, 92
Stilbospora cacao, cocoa, 92
Stictothyreia picticollis, cucurbits, Sudan, 116
 Sugarcane, pest, Ecuador, 40; nematodes, Rhodesia, 45
 Surin, P., 67
 Suryanarayana, D., 19, 77
 Sweet-corn, virus symptoms, 65
 Symposium on Integrated Pest Control, 64

Tangelo, see *Citrus reticulata* x *C. paradisi*
 Teak, see *Tectona grandis*
Tectona grandis, disease, Tanzania, 10
Tetrastichus giffardianus, parasite of *Dacus ciliatus*, Sudan, 115
Thaia oryzivora, rice, Thailand, 30
Thielaviopsis sp., coconut, Philippines, 9
T. paradoxi, coconut, Philippines, 106
Thyronectria pseudotrichia, cocoa, 91
 Tomato, pests, Sudan, 116
Toxoptera citricidus, citrus virus vector, Mauritius, 60; Argentina, 110
Trentopholia aurea, pine, Chile, 18
Trichoderma viride, cocoa, 92
Trichodorus sp., sugarcane, Rhodesia, 46
 Tripathi, N.N., 77
Trophonema n. sp., coconut, Trinidad, 39
Trybliodella rufula, cocoa, 91
 Turner, P.D., 81
 Turnip, disease, India, 41
Tylenchorhynchus sp., sugarcane, Rhodesia, 46
Tylenchus sp., sugarcane, Rhodesia, 46

Usher, see *Calotropis procera*
Ustulina deusta, teak, Tanzania, 10
U. zonata, cocoa, 91

Varanus salvator, predator of rice-field mole rat, Ceylon, 34

Venkatraman, T.V., 115
 Verma, P.S., 102
Verticillium dahliae, cocoa, 91

Wallace, J.M., 109
Wathanakul, L., 67
Wheat, disease, 4; virus symptoms, United States, 65

Xanthomonas citri, citrus, Mauritius, 60
Xiphinema n. sp., coconut, Sabah, Sarawak, 38
Xiphinema sp., sugarcane, Rhodesia, 46
X. brasiliense, coconut, Trinidad, 38
X. coxi, virus vector, Germany, 66
X. ifacolum, coconut, Guam, 38
X. paraelongatum, virus vector, Germany, 66

Xyleborus ferrugineus, cocoa, 89
Xylospheeria feejeensis, cocoa, 91

Zaiger, D., 25
Zaocys mucosus, predator of rice-field mole rat, Ceylon, 34
Zelomorpha sudanensis, parasite of *Laphygrina exigua*, Sudan, 115
Zentmyer, G.A., 1, 25
Zeuzera pyrina, pear, United Arab Republic, 70
Zizyphus spina-christi, pest, Sudan, 115

ERRATA¹

Page	19, in title,	after D. Suryanarayana	add P.S. Bedi and S.S. Aujla
"	33, column 2, lines 18-19	for "the majority of rats escape through the branches..."	read "the majority of rats leaving the burrows do so through the blind runs..."
"	36, " 2, line 19	after "... exposed run."	add "In Experiment 3, one half-tablet was introduced into every exposed run opening. In Experiments 4 and 5, either one half or one whole tablet (see Table 2) was introduced into each exposed opening at one end only of the bund segment. In Experiments 6 to 9, one half-tablet was introduced into only one of the exposed openings at one end only of the bund segment."
"	36, heading for Table 2,	after Tablet	add per one or more exposed run openings
"	37, column 1, line 2,	for "with only a proportion of the run openings..."	add "into only one of the exposed run openings at the end of a 2.5- to 2-metre bund segment."
"	40, " 2, line 29,	for <i>bulbigenus</i>	read <i>bulbigenum</i>
"	65, " 2, in Table 1,	for <i>Calomagrostis</i>	read <i>Calamagrostis</i>
"	92, " 1, line 26,	for <i>F. equiseti</i>	read <i>F. equiseti</i>
"	92, " 2, line 3,	for <i>gloeosporoides</i>	read <i>gloeosporoides</i>
"	115, " 2, line 34,	for <i>cretica</i>	read <i>cretica</i>
"	116, " 2, line 6,	for <i>longistylus</i>	read <i>longistylus</i>
"	116, " 2, line 13,	for <i>longistylus</i>	read <i>longistylus</i>
"	116, " 2, line 17,	for <i>longistylus</i>	read <i>longistylus</i>

¹ The line numbers do not take account of titles and headings.

